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PREFACE

This is the first year that Montana has voluntarily used Model A (Norm Referenced) to evaluate student performance in ESEA Title I. Usable results were obtained on 3,509 students for reading and 1,304 students for mathematics.

The high Normal Curve Equivalent (NCEs) gain made by the youth is a credit to their diligent efforts. I am proud of the ESEA Title I teachers and state staff who serve Montana's young people.

Georgia Rice

GEORGIA RICE
Superintendent

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Basic Information About Montana and Its Schools

Montana, the nation's fourth largest state, averages 550 miles in length and 275 miles in width. It is a high mountain plain area bisected by the Continental Divide which runs north and south through the western section. Elevations range from a high of 12,799 feet to a low of 1,820 feet on the Kootenai River on the Idaho border. Climate varies with topography and altitude. Average annual rainfall is 15 inches, varying from 9.69 to over 100 inches. Average daytime temperatures vary from 28 degrees in January to 84.5 degrees in July.

Agriculture is the most important economic industry with livestock being the leading enterprise. Important crop production is wheat, barley, hay and sugar beets. Minerals such as copper, coal and oil production contribute to the economic well-being of the state. In the western part of the state, the production of timber is another leading enterprise.

During the 1977-78 school year, Montana had 405 operating elementary districts and 165 high school districts. October 1977 elementary enrollment was 100,049 public school students and 68,681 high school students. It is estimated that there are approximately 6,000 non-public school students within the state.

Montana is a sparsely populated state having about five persons per square mile. This estimate is based on the University of Montana population estimate of 761,000 persons within the state in July 1977. Indicative of the low density--there were 112 one-teacher schools within

the state in 1977. The student enrollment gives a very skewed distribution within the state. Table I shows the nature of this skewed distribution of many small schools within the state.

TABLE I

Montana 1977-78 School Year Enrollment Information

Grades	Number of Schools	Range of Student Enrollment	Percent of Schools Below Selected Enrollment
K-8	608	1-665	47% of schools have enrollment of less than 100 students
7-9	24	178-1236	50% of schools have enrollment of less than 751 students
9-12	170	23-2348	55% of schools have enrollment of less than 151 students

State Organization

The division of ESEA Title I is headed by a manager, with three program consultants and one half-time consultant in the area of evaluation. These professional people within the division are under the direction of a director of the Federal Programs Unit. The ESEA Title I Division also has the benefit of a capable support staff. The manager has delegated the consultative and technical assistance for the Title I projects to each of the three program consultants. They approve project funding and monitor the approved programs in accordance with federal regulation. Each has a specific geographic area such that they have approximately the same number of Title I projects (see Appendix A).

An analysis of 1977-78 data also indicates that each area has approximately the same funding level and same approximate number of Title I students. The Title I manager is responsible for the overall administrative matters. In addition, the manager also directs other aspects of ESEA Title I; namely, the handicapped, neglected and delinquent, and the migrant education program.

During the school year, the ESEA Title I program consultants made 110 project visitations. During these visitations, the consultants monitor the Title I program in that school and compare its performance with the objectives as stated in the project application. Each consultant utilizes a monitoring checklist. Major divisions of the checklist are: 1) maintenance of fiscal effort, 2) target area selection and comparability of services, 3) program planning, 4) dissemination, 5) staffing, 6) budgeting and control of funds, and 7) program evaluation.

The state staff organized three regional-type workshops for Title I staff. The workshops were held in Havre on April 14, in Billings on April 20 and 21, and in Helena on April 27 and 28, 1978. Those registering were teachers, aides, tutors, administrators, and parents from the parent advisory committees. There were 126 registered for the Havre meeting, 274 for the Billings meeting, and 320 for the Helena meeting. The program efforts of these inservice meetings were directed to the following areas: 1) elementary reading, b) junior and senior high reading, c) an idea exchange (NDN), d) administrative requirements of ESEA Title I, and h) fiscal management and accounting of Title I funds.

The ESEA Title I program consultants attended various professional meetings to upgrade their own skills. On September 7 and 8, 1977, two Title I consultants attended a joint Region VIII and X conference in Salt Lake City for Title I program consultants. These consultants shared information and suggestions on how they can better serve the Title I projects in their respective areas. One of the Title I consultants, who has a strong background in reading, attended the International Reading Association meeting in Houston, Texas during early May. Sessions related to Title I activities were individual education programs, development of personalized inservice programs, and how to better involve parents in reading activities.

In January 1978, the Title I manager and one consultant attended a National Diffusion Network (NDN) Title I awareness conference in Denver, Colorado. At the meeting 21 exemplary projects were presented that are designed to serve Title I students. Upon return, the consultants shared their knowledge with the other Title I staff and with selected members of the Office of Public Instruction. An outcome of this meeting was the state's submission of an NDN Facilitator proposal to the U. S. Office of Education. Consequently, the proposal was funded and three Office of Public Instruction personnel have responsibilities for the National Diffusion Network program.

One of the Title I staff members has been designated by the manager to serve as contact person with the Technical Assistance Center (TAC). The Northwest Regional Education Laboratory is the TAC that provides valuable service to Montana. Assistance has been given to state and local

Title I staff. Technical Assistance Center staff augmented the workshop presentations at the three Title I regional inservice meetings. Liaison between the TAC and the state is promoted through the Regional Coordinating Council meeting. The last meeting was held in Denver on March 21, 1978. The meeting also provided an opportunity for the SEAs to share evaluation problems and successful actions.

U. S. Office of Education Review

The Montana ESEA Title I Program was reviewed by representatives of the U. S. Office of Education on September 19-23, 1977. The representatives were Ben Rice, Sharon Scott, Mickey Helms, and Bruce Palmer. The Montana project sites visited by the representatives were Hardin, Lockwood, Roundup, Great Falls and Helena.

Montana ESEA Title I Funding

There was a total of 347 districts eligible for ESEA Title I funds in fiscal year 1978 which is the same number as fiscal year 1977. Of the 1978 districts that were eligible, 217 were elementary and 130 high school districts. Elementary districts eligibility for funds ranged from $83.00 to $398,314, with a mean eligible allocation of $19,438. The range in high school allocation was from a low of $102.00 to a high of $171,132, with a mean of $13,544. In fiscal year 1978, there were 166 districts that were eligible because of the "hold harmless" provisions of the law. Twenty-six districts were raised to the 85 percent of previous years allocation. Montana's ESEA Title I funding is shown in Appendix B.

In fiscal year 1978, there were 154 ESEA Title I projects in Montana. This involved 242 school districts of which 70 districts submitted and received separate funding. For various reasons, 172 school districts cooperatively administered projects; however, funds maintained their exclusive identification. Some cooperative projects were elementary and high school districts that served similar geographic areas. A few districts operated a cooperative project such that their combined allocation would exceed $2,500 and consequently would be able to operate an adequate project.

Summary of Local Education Agency Results

The unduplicated participation of ESEA Title I students is shown in Table II. This number represents an increase of 614 students over the previous fiscal year. Table III is fiscal year 1978 student participation by area of concentration. The number of ESEA Title I students in reading and mathematics was compared between fiscal years 1978 and 1977. Counts for both years permitted duplicate count of students; for example, a student could be an ESEA Title I participant in both reading and mathematics. In fiscal year 1978, there was an 11 percent increase in students participating in reading and a 6 percent decrease in the number of participating students in mathematics.

Some of the local education agencies reported student progress in terms of Grade Equivalents (GE). Those districts reporting in GE used 11 different tests in reading and nine different tests in mathematics. The data was aggregated by determining a total grade equivalent gain on both

TABLE II

MONTANA ESEA TITLE I PROJECT PARTICIPATION BY GRADE
1977-78

Grade Level	Public School Children	Nonpublic School Children	Youth Not Enrolled in Any School	Total Participants
Kindergarten	172			172
Grade 1	855	14		869
Grade 2	1,101	38		1,139
Grade 3	1,072	54		1,126
Grade 4	1,088	51		1,139
Grade 5	1,075	34		1,109
Grade 6	1,109	31		1,140
Grade 7	1,250	30	1	1,281
Grade 8	1,044	13		1,057
Grade 9	1,034	40	17	1,091
Grade 10	810	48	28	886
Grade 11	417	12	43	472
Grade 12	312	5	83	400
Total	11,339	370	172	11,881

TABLE III

MONTANA ESEA TITLE I PUPIL PARTICIPATION BY AREA OF CONCENTRATION
1977-78

Subject Matter	Preschool		Grades 1-2-3		Grades 4-5-6		Grades 7-8-9		Grades 10-11-12		Totals	
	Public	Non-Public	Public	Non-Public	Public	Non-Public	Puplic	Non-Public	Public	Non-Public	Public	Non-Public
Reading	130	0	2,782	86	2,565	71	2,764	78	1,617	31	9,858	266
Mathematics	37	0	969	20	1,574	51	1,359	60	508	20	4,447	151
Attitude and Self-Image	0	0	516	72	754	51	1,014	36	599	18	2,883	177
Attention Span	0	0	53	21	68	9	181	0	41	0	343	30
Work Study Skills	0	0	79	0	92	0	144	0	51	0	366	0
Emotional and Social Stability	0	0	15	0	21	0	156	0	45	0	237	0
Counseling	4	0	70	0	85	0	1	0	0	0	160	0
Responsibility	0	0	0	0	0	0	45	0	41	0	86	0
Totals	171	0	4,484	199	5,159	182	5,664	174	2,902	69	18,380	624

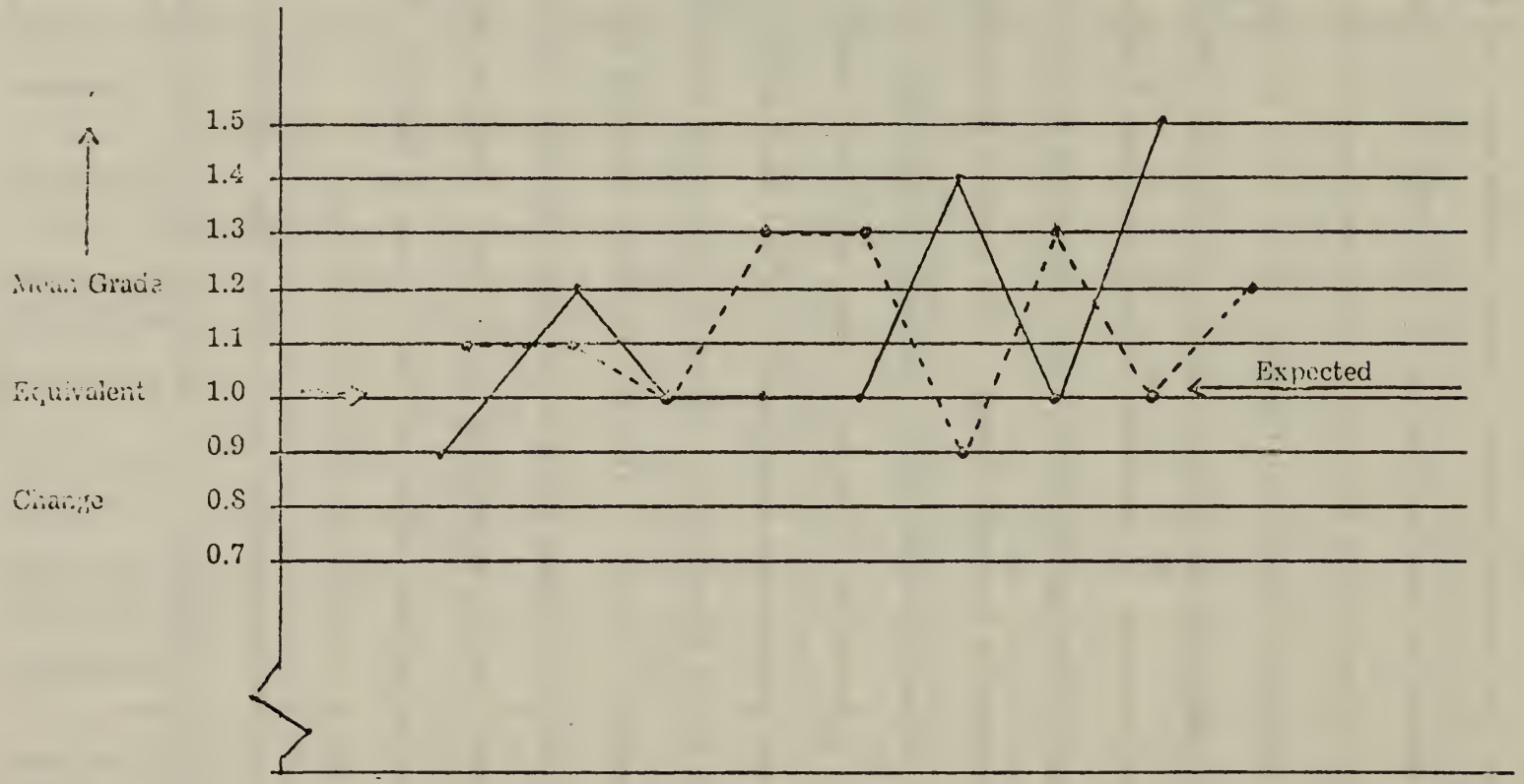
pre- and posttest results. The difference between the scores for each grade was divided by the number of students having a pre- and posttest score. The mean gain for each grade in shown in Table IV.

There were 115 school districts who used Model A to report their reading pre- and posttest results. Student scores were sent to the Office of Public Instruction in either percentile or Normal Curve Equivalents. The Office, in cooperation with the technical assistance of the Northwest Regional Education Laboratory, modified the U. S. O. E. computer program to aggregate the results. Usable results were obtained on 3,509 ESEA Title 1 students. A statewide reading average of 7.9 Normal Curve Equivalents (NCEs) was obtained. This mean score may be higher than will be expected in succeeding years. The Model A testing date requirement of plus or minus two weeks of the empirical norming date was not as rigorously enforced this first year of using the model. Photo copies of the pre- and posttest data submitted by the LEA were made; the copies were used by the keypunchers. Major errors in data submitted were marked using a "Hi-Liter". This is a vivid marking pen that permits a person to see the original entry on the reporting form. Keypunch operators did not punch the data marked by the Hi-Liter. These corrected forms as well as the computer output will be returned to the LEA. These actions should serve as a learning experience to the LEAs.

The statewide aggregation of reading data is shown in Table V. Similar analysis procedures were with the 1,304 students receiving

TABLE IV

1977-78 Montana ESEA Title I Mean Gain of
Those Projects Reporting in Grade Equivalents



Grade →	1	2	3	4	5	6	7	8	9	10	11	12
No. of Students: Math (——)		49	62	62	65	64	53	45	22			
Reading (- - -)		43	48	52	44	60	59	53	65	42		

supplemental instruction in mathematics. The statewide aggregation of mathematics results is shown in Table VI.

A statewide impact report was prepared for both reading and mathematics. The skewed high NCE gain complicates the interpretation of the statewide impact tables. Table VII shows the statewide impact in reading. Since the "hours per week" column does not have an equal class interval, a median cannot be calculated. The modal class size is between 2.6 and 5.0 hours. The median reading "total hours" of ESEA Title I instruction was 66.1 hours. The modal class interval size for "instructor to student ratio" was 1:10 to 1:20.

Table VIII shows the statewide impact in mathematics. The modal class interval for "hours per week" was 2.6 to 5.0 hours. The median "total hours" of ESEA Title I mathematics instruction was 117.5 hours. The modal class interval size for "instructor to student ratio" was 1:10 to 1:20.

Consideration will be given to adjusting the class interval size of the statewide impact data in future reports. Perhaps the number of class intervals will be increased and have equal class interval size.

TABLE V

MONTANA 1977-78 ESEA TITLE I READING PROGRESS
GAIN REPORTED IN NORMAL CURVE EQUIVALENTS (NCEs)

Grade	Number of Students	Total NCE Gain	Mean NCE Gain Per Student
2	459	6,070.5	13.2
3	394	3,787.6	9.6
4	412	3,013.6	7.3
5	373	2,633.4	7.1
6	328	1,708.7	5.2
7	351	2,185.0	6.2
8	342	2,737.3	8.0
9	313	2,544.9	8.1
10	300	1,852.0	6.2
11	127	822.0	6.5
12	110	308.5	2.8
Totals	3,509	27,663.5	80.2
Montana Mean Gain Per Student			7.9

Number of Students Reported	6,964
Number with Valid Test Data	3,509 (50%)
Number of School Districts Included	115

TABLE VI

MONTANA 1977-78 ESEA TITLE I MATHEMATICS PROGRESS GAIN REPORTED IN NORMAL CURVE EQUIVALENTS (NCEs)

Grade	Number of Students	Total NCE Gain	Mean NCE Gain Per Student
2	93	1,066.0	11.5
3	127	1,830.7	14.4
4	150	1,229.3	8.2
5	198	1,608.4	8.1
6	175	921.5	5.3
7	153	1,181.4	7.7
8	133	642.6	4.8
9	109	1,271.4	11.7
10	105	430.1	4.1
11	13	-9.3	-.7
12	48	128.1	2.7
Totals	1,304	10,300.2	77.8
Montana Mean Gain Per Student			7.9

Number of Students Reported	2,833
Number with Valid Test Data	1,304 (46%)
Number of School Districts Included	50

TABLE VII

MONTANA READING IMPACT ESEA TITLE I 1977-78
GAIN OR LOSS REPORTED IN NORMAL CURVE EQUIVALENTS

DISTRICT CHARACTERISTICS	NORMAL CURVE EQUIVALENT GAIN RANGES						
	BELOW O	0-1	1.1-3	3.1-5	5.1-7	OVER 7	TOTALS
HOURS PER WEEK							
0 - 1	0	1	0	0	0	1	2
1.1 - 2.5	2	1	5	2	4	19	33
2.6 - 5	3	2	8	7	14	41	75
5.1 - 7.5	0	0	1	0	0	2	3
7.6 - 10	0	0	0	1	0	0	1
OVER 10	0	0	0	0	0	1	1
TOTAL HOURS							
0-30	0	2	0	0	0	1	3
31-60	1	0	4	1	2	11	19
61-90	2	0	4	4	6	17	33
91-120	1	1	2	2	7	12	25
121-150	1	1	3	1	3	12	21
151-180	0	0	1	0	0	8	9
181-210	0	0	0	1	0	1	2
OVER 210	0	0	0	1	0	2	3
INSTRUCTOR TO STUDENT RATIO							
1: over 20	0	0	3	2	2	7	14
1:10.1 - 1:20	4	3	5	5	10	35	62
1:6.1 - 1:10	1	1	3	3	5	11	24
1:4.1 - 1:6	0	0	0	0	0	6	6
1:2.1 - 1:4	0	0	3	0	1	4	8
1:1.1 - 1:2	0	0	0	0	0	1	1
1:0 - 1:1	0	0	0	0	0	0	0
TOTALS	5	4	14	10	18	64	115

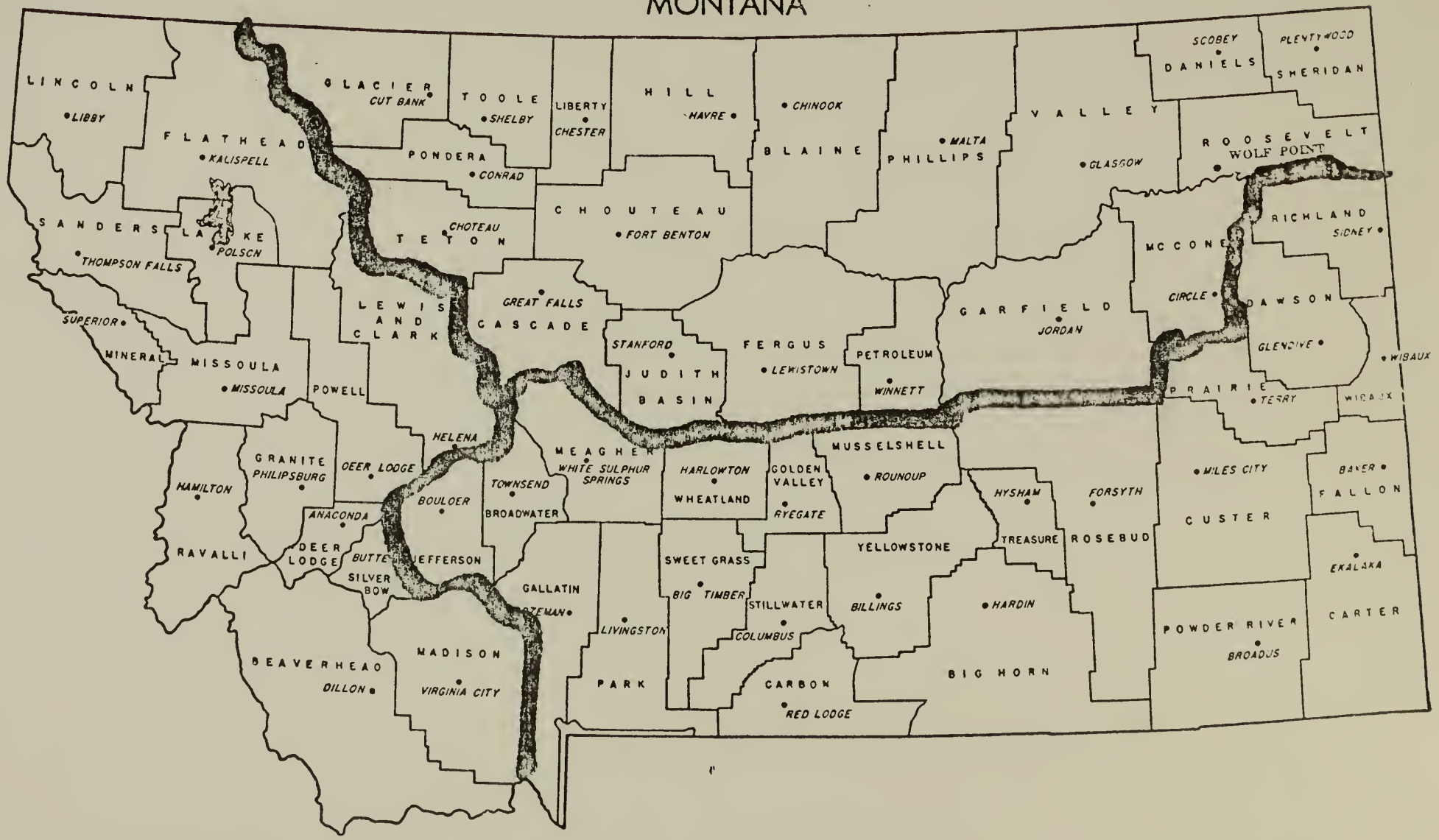
TABLE VIII

MONTANA MATHEMATICS IMPACT ESEA TITLE I 1977-78
GAIN OR LOSS REPORTED IN NORMAL CURVE EQUIVALENTS

DISTRICT CHARACTERISTICS	NORMAL CURVE EQUIVALENT GAIN RANGES						
	BELOW 0	0-1	1.1-3	3.1-5	5.1-7	OVER 7	TOTALS
HOURS PER WEEK							
0 - 1	1	0	0	0	1	1	3
1.1 - 2.5	2	0	1	1	4	9	17
2.6 - 5	2	0	4	3	2	16	27
5.1 - 7.5	0	0	1	0	0	2	3
7.6 - 10	0	0	0	0	0	0	0
OVER 10	0	0	0	0	0	0	0
TOTAL HOURS							
0-30	3	0	0	0	0	2	5
31-60	0	0	0	1	3	3	7
61-90	0	0	2	1	3	10	16
91-120	1	0	2	2	0	7	12
121-150	1	0	0	0	0	2	3
151-180	0	0	1	0	1	4	6
181-210	0	0	1	0	0	0	1
OVER 210	0	0	0	0	0	0	0
INSTRUCTOR TO STUDENT RATIO							
1: over 20	1	0	0	0	2	3	6
1:10.1 - 1:20	2	0	3	2	4	14	25
1:6.1 - 1:10	2	0	1	2	1	8	14
1:4.1 - 1:6	0	0	0	0	0	3	3
1:2.1 - 1:4	0	0	1	0	0	0	1
1:1.1 - 1:2	0	0	0	0	0	0	0
1:0 - 1:1	0	0	1	0	0	0	1
TOTALS	5	0	6	4	7	28	50

APPENDIX A

MONTANA ESEA TITLE I PROGRAM SPECIALIST REGIONS



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APPENDIX B

AMOUNT OF FUNDS APPROVED BY SOURCE-1977-78

Source	Name	Fiscal Year Funds	No. of Projects	No. of Districts	Amount Approved
Part A	Local Education Agency (LEA)	1978	149	239	$4,492,580
Part A	Local Education Agency (LEA)	1977 Carryover	144	224	2,133,089
Part A	Local Education Agency (LEA)	1977 Reallocated	27	39	124,595
Part B	LEA incentive Grants	1977 Carryover	38	43	690,451
89-313	Institutions--Handicapped	1978	4	4	347,109
89-313	Institutions--Handicapped	1977 Carryover	3	3	103,083
89-750	Institutions--Neglected and Deliquent	1978	3	3	95,866
89-750	Institutions--Neglected and Delinquent	1977 Carryover	3	3	7,269
89-750	Migrant	1978	1	1*	792,219
89-750	Migrant	1977 Carryover	1	1*	226,117

*One school district is the subgrantee for migrant program and operates the program at nine sites.